

HARBERD et al  
Appl. No. 10/809,945  
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**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-54 (Cancelled).

55. (Previously Presented) An isolated polynucleotide encoding a polypeptide which on expression in a plant provides inhibition of growth of the plant, which inhibition is antagonised by gibberellin,

wherein the polypeptide has an amino acid sequence which shows at least 80% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

56. (Previously Presented) The isolated polynucleotide according to claim 55 wherein the polypeptide has an amino acid sequence which shows at least 90% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

57. (Previously Presented) The isolated polynucleotide according to claim 55 wherein the polypeptide has an amino acid sequence which shows at least 95% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

58. (Previously Presented) The isolated polynucleotide according to claim 55 wherein said polypeptide comprises the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104).

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59. (Previously Presented) The isolated polynucleotide according to claim 55 wherein said polypeptide comprises a contiguous sequence of 17 amino acids, wherein at least 10 residues of said contiguous sequence show amino acid similarity or identity with the residue in the corresponding position in the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104).

60. (Previously Presented) The isolated polynucleotide according to claim 59 wherein said polypeptide comprises a contiguous sequence of 17 amino acids, wherein 16 residues of said contiguous sequence show amino acid identity with the residue in the corresponding position in the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104).

61. (Currently Amended) ~~The isolated polynucleotide according to claim 55, An~~  
isolated polynucleotide encoding a polypeptide which on expression in a plant provides  
inhibition of growth of the plant, which inhibition is antagonised by gibberellin,  
wherein the polypeptide has an amino acid sequence which shows at least 80% similarity  
with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1) and,  
wherein said polynucleotide specifically hybridizes to the sequence of Figure 8A (SEQ ID NO:14) at 65°C in 0.25M Na<sub>2</sub>HPO<sub>4</sub>, pH 7.2, 6.5% SDS, 10% dextran sulphate and a final wash at 60°C in 0.1X SSC, 0.1% SDS.

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62. (Previously Presented) The isolated polynucleotide according to claim 61 wherein said polynucleotide comprises the nucleotide sequence  
GACGAGCTGCTGGCGGCGCTCGGGTACAAGGTGCGCGCCTCCGACATGGCG (SEQ ID NO:105).

63. (Previously Presented) An isolated nucleic acid that hybridizes to the complement of a nucleic acid coding for the amino acid sequence shown in Figure 8b (SEQ ID NO. 7), under the following conditions: hybridization without formamide for 18 hours at 65°C, with washing once with 3 x SSC (1 x SSC is 0.15 M NaCl, 0.015 M sodium citrate), 0.1% SDS for 25 minutes at 65°C, and once with 0.1 x SSC, 0.1% SDS for 25 minutes at 65°C,

wherein said isolated nucleic acid encodes a polypeptide comprising the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104) and expression of said isolated nucleic acid in a plant results in inhibition of growth of the plant, the inhibition being antagonised by gibberellin (GA).

64. (Currently Amended) An isolated polynucleotide encoding a polypeptide which on expression in a plant confers a phenotype on the plant which is gibberellin-unresponsive dwarfism or which on expression in a *rht* null mutant phenotype plant complements the *rht* null mutant phenotype, such *rht* null mutant phenotype being resistance to the dwarfing effect of paclobutrazol,

wherein the polypeptide comprises an amino acid sequence which shows at least 80% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

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65. (Previously Presented) The isolated polynucleotide according to claim 64 wherein the polypeptide has an amino acid sequence which shows at least 90% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

66. (Previously Presented) The isolated polynucleotide according to claim 64 wherein the polypeptide has an amino acid sequence which shows at least 95% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1).

67. (Currently Amended) ~~The isolated polynucleotide according to claim 64~~ An isolated polynucleotide encoding a polypeptide which on expression in a plant confers a phenotype on the plant which is gibberellin-unresponsive dwarfism or which on expression in a *rht* null mutant phenotype plant complements the *rht* null mutant phenotype, such *rht* null mutant phenotype being resistance to the dwarfing effect of paclobutrazol.

wherein the polypeptide comprises an amino acid sequence which shows at least 80% similarity with the *Rht* amino acid sequence of Fig 3b (SEQ ID NO:1), and

wherein said polynucleotide specifically hybridizes to the polynucleotide sequence of Figure 8A (SEQ ID NO:14) at 42°C in 0.25M Na<sub>2</sub>HPO<sub>4</sub>, pH 7.2, 6.5% SDS, 10% dextran sulfate with a final wash at 55°C in 0.1X SSC, 0.1% SDS.

68. (Previously Presented) The isolated polynucleotide according to claim 64 wherein the polypeptide comprises the amino acid sequence of a *Triticum Aestivum Rht* polypeptide, with one or more amino acids deleted.

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69. (Previously Presented) The isolated polynucleotide according to claim 68 wherein one or more amino acids from the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104) or the amino acid sequence LNAPPPPLPPAPQ (SEQ ID NO:103) are deleted.

70. (Previously Presented) The isolated polynucleotide according to claim 69 wherein the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO:104) is deleted.

71. (Previously Presented) The isolated polynucleotide according to claim 69 wherein the amino acid sequence LNAPPPPLPPAPQ (SEQ ID NO:103) is deleted.

72. (Previously Presented) The isolated polynucleotide according to claim 64 wherein the polypeptide comprises the amino acid sequence shown in Figure 9b (SEQ ID NO:8) for the maize D8 polypeptide, with one or more amino acids deleted.

73. (Previously Presented) The isolated polynucleotide according to claim 72 wherein one or more amino acids from the sequence DELLAALGYKVRSSDMA (SEQ ID NO:106) or the sequence VAQK (SEQ ID NO:101) or the sequence LATDTVHYNPSD (SEQ ID NO:102) are deleted.

74. (Previously Presented) The isolated polynucleotide according to claim 73 wherein the amino acid sequence DELLAALGYKVRSSDMA (SEQ ID NO:106) is deleted.

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75. (Previously Presented) The isolated polynucleotide according to claim 73 wherein the amino acid sequence VAQK (SEQ ID NO:101) is deleted.

76. The isolated polynucleotide according to claim 73 wherein the amino acid sequence LATDTVHYNPSD (SEQ ID NO:102) is deleted.

77. (Previously Presented) The isolated polynucleotide according to claim 64 wherein the polypeptide comprises the amino acid sequence shown in Figure 6b (SEQ ID NO:5), with one or more amino acids deleted.

78. (Previously Presented) The isolated polynucleotide according to claim 77 wherein one or more amino acids from the sequence DELLAALGYKVRSSDMA (SEQ ID NO:106) are deleted.

79. (Previously Presented) The isolated polynucleotide according to claim 78 wherein the amino acid sequence DELLAALGYKVRSSDMA (SEQ ID NO:106) is deleted.

80. (Previously Presented) An isolated nucleic acid that hybridizes to the complement of a nucleic acid coding for the amino acid sequence shown in Figure 8b (SEQ ID NO. 7) under the following conditions: hybridization without formamide for 18 hours at 65°C, with washing once with 3 x SSC (1 x SSC is 0.15 M NaCl, 0.015 M sodium citrate), 0.1% SDS for 25 minutes at 65°C, and once with 0.1 x SSC, 0.1% SDS for 25 minutes at 65°C,

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wherein expression of said isolated nucleic acid complements a *rht* null mutant phenotype in a plant, such phenotype being resistance to the dwarfing effect of paclobutrazol.

81. (Previously Presented) An isolated polynucleotide comprising the isolated polynucleotide according to claim 55, claim 63, claim 64, or claim 80 operably linked to a regulatory sequence for expression.

82. (Previously Presented) The isolated polynucleotide according to claim 81 wherein the regulatory sequence comprises an inducible promoter.

83. (Previously Presented) An isolated polynucleotide encoding a *Triticum aestivum* *Rht* polypeptide, said polypeptide comprising the amino acid sequence of DELLAALGYKVRASDMA (SEQ ID NO:104) and which on expression in a *Triticum aestivum* plant, provides inhibition of growth of the plant, which inhibition is antagonized by gibberellin, said polynucleotide being operably linked to a regulatory sequence for transcription.

84. (Previously Presented) An isolated nucleic acid comprising a nucleotide sequence complementary to a sequence of at least 50 contiguous nucleotides of the polynucleotide according to claim 55, operably linked to a regulatory sequence for transcription.

85. (Previously Presented) The nucleic acid according to claim 84 wherein the regulatory sequence comprises an inducible promoter.

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86. (Previously Presented) A nucleic acid vector comprising the polynucleotide according to claim 55.

87. (Previously Presented) A host cell comprising the isolated polynucleotide according to claim 55.

88. (Previously Presented) The host cell according to claim 87 wherein said cell is a microbial cell.

89. (Previously Presented) The host cell according to claim 87 wherein said cell is a plant cell.

90. (Previously Presented) The plant cell according to claim 89 comprising the isolated polynucleotide within its chromosome.

91. (Previously Presented) The plant cell according to claim 90 comprising more than one copy of said polynucleotide per haploid genome.

92. (Previously Presented) The plant cell according to claim 89 wherein said cell is comprised in a plant, a plant part or a plant propagule, or an extract of a plant.



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93. (Previously Presented) A method of producing a transformed host cell, the method comprising incorporating into a host cell said isolated polynucleotide according to claim 55 so that the transformed host cell is produced.

94. (Previously Presented) The method according to claim 93 wherein said isolated polynucleotide is stably incorporated into the genome of said transformed host cell.

95. (Previously Presented) The method according to claim 94 wherein the host cell is a plant cell and the method further comprises regenerating a plant from one or more of said transformed plant cells.

96. (Previously Presented) A plant comprising the plant cell according to claim 89.

97. (Previously Presented) A part or propagule of a plant comprising the plant cell according to claim 89.

98. (Previously Presented) A method of producing a plant, the method comprising incorporating the isolated polynucleotide according to claim 55 into a plant cell and regenerating a plant from said plant cell.

99. (Previously Presented) The method according to claim 98 further comprising growing offspring or a descendent of the plant regenerated from said plant cell.

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100. (Previously Presented) The method according to claim 99 further comprising sexually or asexually propagating the plant regenerated from said plant cell.

101. (Previously Presented) A method of altering the growth of a plant, the method comprising;

causing or allowing expression from a heterologous polynucleotide comprising the isolated polynucleotide according to claim 55 within cells of the plant, whereby expression of said heterologous polypeptide alters the growth of said plant.

102. (Previously Presented) A method of identifying or obtaining a polynucleotide encoding a polypeptide which on expression in a plant provides inhibition of growth of the plant, which inhibition is antagonised by gibberellin, the method comprising screening candidate nucleic acid by using a nucleic acid probe which specifically hybridises to the sequence of Figure 8A (SEQ ID NO:14) under stringent conditions.

103. (Previously Presented) The method according to claim 102 wherein oligonucleotide primers are employed in PCR.

104. (Previously Presented) The method according to claim 103 wherein said primers are selected from those shown in Tables 1 (SEQ ID NO:21 – SEQ ID NO:55) and 2 (SEQ ID NO:80 – SEQ ID NO:100).